

CONTROL CIRCUIT FOR IEEE 1394b OPTICAL TRANSMISSION PROTOCOL

ABSTRACT OF THE DISCLOSURE

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[035] An On-Off control circuit between the IEEE1394a and IEEE1394b compliant physical layer (PHY) output driver circuitry and the glass fiber optical physical medium dependent (PMD) sub-layer within the architecture of the IEEE 1394b standard addresses the stability issue incurred by electronic circuit's inherent noise that interferes with the connection detecting procedure defined by the connection management protocol (CMP) of the IEEE 1394b standard. The circuit includes of a voltage divider to provide a reference voltage of about 50% of the output common mode voltage, a voltage comparator, and a feedback coupled to the positive input of the comparator to eliminate possible oscillation.

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15 The negative input of the comparator may be connected to the mid point of TPB termination network and the positive input of the comparator may be connected to the output of the voltage dividing circuit. The output of the comparator may be connected to the transmission enable bar input of the optical transceiver. In the process of connection detection, the common mode voltage of the TPB output toggles between 0 volt and 1.5 volt. Thus, the changing of the common mode voltage of TPB output driver circuitry will switch the optical transmitter on and off at a proper time to meet with the input signal definition requirements at the peer node according to the IEEE1394b standard.

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